DECLARATION FOR REFERENCE DOCUMENTS

As a below named inventor, I hereby declare that my residence, post office address and citizenship are as stated below next to my name.

I believe I am the original, first and sole inventor of the subject matter which is claimed and for which a patent is sought on the invention entitled:

METHOD AND DEVICE TO IMPROVE THE RATIO OF OXYGEN MASS VERSUS FUEL MASS AT IGNITION IN COMBUSTION MECHANISMS OPERATING WITH FLUID HYDROCARBON FUEL

I hereby state that I am attaching a true copy of the following documents:

1) calculations by ETV Canada dated 06/28/2000 based on test results of the method of operation of the Velke Invention
2) CGRI evaluation of the Velke Invention dated 04/27/1999

and believe the contents of the documents are relative to the process of examination of the above application.

I acknowledge the duty to disclose information which is material to the examination of this application in accordance with Title 37, code of Federal Regulations, Par. 1.56(a).

I hereby declare that all statements made herein, and documents submitted herewith, of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that wilful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such wilful false statements may jeopardise the validity of the application or any patent issued thereon.

Full name of sole inventor WILLIAM H. VELKE

Inventor's signature

Date: November 22, 2005 Residency: Canada Citizenship: Canadian

Post Office Address: William H. Velke
P.O.Box 154
277 Campbellville Road,
Campbellville, Ontario,
Canada, L0P 1B0

ETV CONFIDENTIAL REPORT ON FUEL PREHEATING INVENTION

Heat Input Increase

Improved combustion efficiency is an improvement in the conversion of the fuel into Carbon Dioxide (CO_2) and Water (H_2O). This is evidenced by a reduction in the volume of Carbon Monoxide (CO) emissions.

Volume of CO with Tylon Activated = 2.84 in^3 = 0.0465394 dm^3 = 0.00208 mol

Volume of CO with Tylon Bypassed = 4.61 in^3 = 0.0755445 dm^3 = 0.00337 mol

The Enthalpy of formation of Carbon Dioxide and Carbon Monoxide are:

ΔH_f CO = -110.5 kJ/mol

ΔH_f CO_2 = -393.5 kJ/mol

Difference between CO and CO2 energy release = 283 kJ/mol

Difference in CO emitted = 0.00129 mol

Therefore the additional energy released due to improved combustion efficiency, when the Tylon Fuel Saver is Activated

= 0.00129 x 283 = 0.36507 kJ = 0.346 Btu

The furnace used 3.174 ft^3 of Propane in 10 minutes when the Tylon Fuel Saver was activated. Therefore in 5 minutes 1.587 ft^3 was consumed.

The calorific value of the Propane used was 2500 Btu/ft^3.

Therefore in 5 minutes 3967.5 Btu were input to the furnace as chemical energy in the fuel.

CGRI has in the past calculated the increased energy input due to the higher temperature of the fuel when the Tylon Fuel Saver is activated. This equates to 75.4 kJ/m^3 or 2.024 Btu/ft^3, which in 5 minutes was 3.212 Btu.

It can thus be said that the increase in energy input to the furnace due to fuel heating and an improvement in combustion efficiency was 3.558 Btu.

That is, **an increased energy input of 0.09 %** (This analysis did not include a possible improvement to the low level of propane slippage that can occur on burner ignition and extinction, as it was not measured. However, it would not be expected to add a significant amount to the increase in energy input).

The above increase in energy input is far outweighed by the measured decrease in fuel volume (2.3%) to the furnace due to the change in thermophysical properties of the fuel and temperature effects on the combustion system (orifice, burners, etc).

Furnace Efficiency

CGRI has in the past calculated a few snapshot efficiencies from the data provided by ITS, see below.

Tylon Flue Loss Efficiency

For Cycle # 2

Activated Time	Flue CO2 %	Flue Temperature after Tylon (F)	Combustion Air Temperature (F)	Delta T (F)	Flue Loss %	Efficiency %
0						
1	6.6	212	58.9	153.1	15	85
2	6.3	275.6	60	215.6	17.5	82.5
3	6.26	318.1	59.7	258.4	19	81
4	7.34	342.8	58.5	284.3	18.75	81.25
5	6.44	359	60.8	298.2	20	80
6	6.4	369.2	59.1	310.1	20.5	79.5
7	6.42	374.4	59.8	314.6	20.75	79.25
8	6.35	378	59.5	318.5	21	79
9	6.44	379.3	59.9	319.4	21	79
10	6.4	380.4	60.1	320.3	21	79

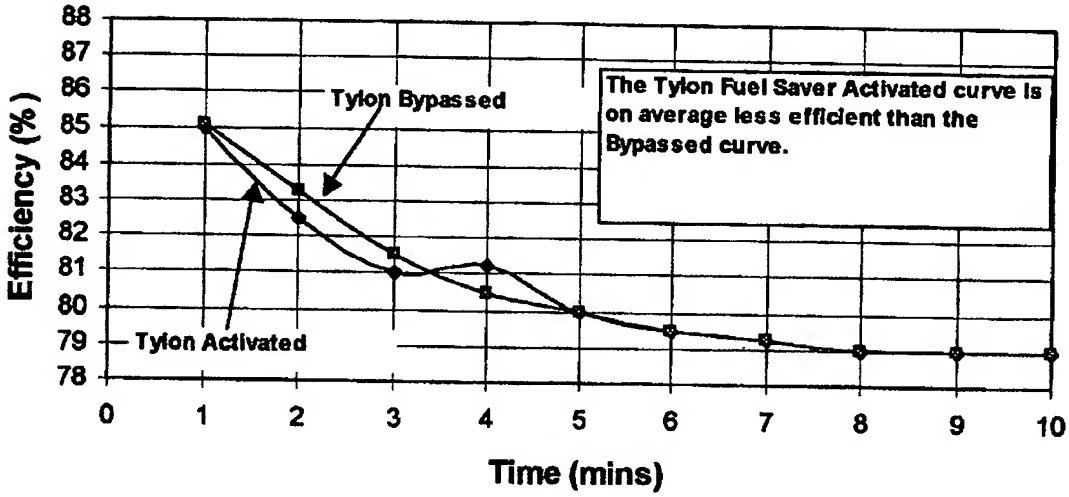
Bypassed Time	Flue CO2 %	Flue Temperature after Tylon (F)	Combustion Air Temperature (F)	Delta T (F)	Flue Loss %	Efficiency %
0						
1	5.99	168.6	58.4	110.4	14.9	85.1
2	6.33	253.2	58.6	194.6	18.75	83.25
3	6.36	304.4	59.6	244.4	18.5	81.5
4	6.46	337.4	60	277.4	19.5	80.5
5	6.49	358.2	60.7	297.5	20	80
6	6.54	389.8	60.4	309.4	20.5	79.5
7	6.61	377.6	60.6	317	20.75	79.25
8	6.54	382.2	60.4	321.8	21	79
9	6.54	385.1	61.4	323.7	21	79
10	6.56	387	60.7	326.3	21	79

For Cycle #8

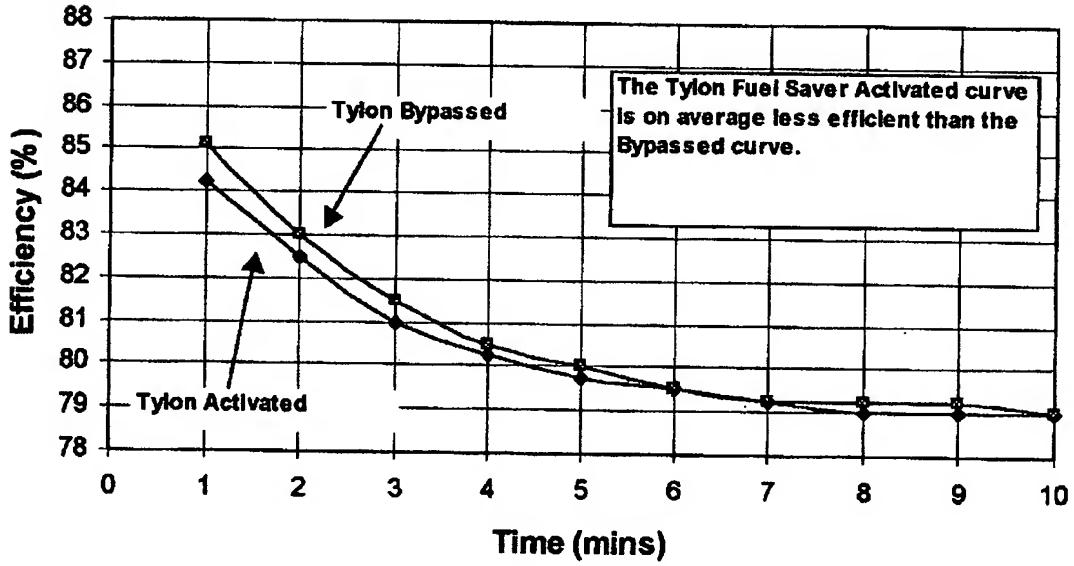
Activated Time	Flue CO2 %	Flue Temperature after Tylon (F)	Combustion Air Temperature (F)	Delta T (F)	Flue Loss %	Efficiency %
0						
1	5.86	214.2	58.3	155.9	15.75	84.25
2	6.28	277.8	59.3	218.5	17.5	82.5
3	6.36	317.7	60.6	257.1	19	81
4	6.34	343.2	61.2	282	19.75	80.25
5	6.36	359.1	61.3	297.8	20.25	79.75
6	6.41	368.1	61.3	306.8	20.5	79.5
7	6.31	373.1	61.7	311.4	20.75	79.25
8	6.31	376.7	60.5	316.2	21	79
9	6.31	379.2	61.1	318.1	21	79
10	6.33	380.7	61.5	319.2	21	79

Bypassed Time	Flue CO2 %	Flue Temperature after Tylon (F)	Combustion Air Temperature (F)	Delta T (F)	Flue Loss %	Efficiency %
0						
1	5.96	166.1	59.5	106.6	14.9	85.1
2	6.19	253.6	59.6	194	17	83
3	6.32	305.6	59.9	245.7	18.5	81.5
4	6.45	338.1	60.2	277.9	19.5	80.5
5	6.47	357.6	60.5	297.3	20	80
6	6.48	370.1	60.8	309.3	20.5	79.5
7	6.54	377.4	60.3	317.1	20.75	79.25
8	6.53	382.6	61.2	321.4	20.75	79.25
9	6.54	385.1	60.7	324.4	20.75	79.25
10	6.56	387.3	61.1	326.2	21	79

Tylon Fuel Saver (Furnace Cycle 2)



Tylon Fuel Saver (Furnace Cycle 6)



These overall efficiency figures were calculated using the "flue loss method". This method determines the sensible and latent energy lost in the combustion products going up the flue. The figures are determined by temperature differences between what goes in and what comes out and also from the flue Carbon Dioxide concentration, which gives an indication of the excess air level in the flue.

The Efficiency determined using this method includes both the energy output in the load air and the energy lost from the furnace to its surroundings.

The energy lost from the furnace to its surroundings (casing or jacket losses) was not measured, however they are generally not very high and for a furnace would contribute to the heating of a house. It is CGRI's opinion that the casing losses would not have changed significantly when the Tylon Fuel Saver was activated as compared to its being bypassed, during the ITS testing.

In Conclusion

There was a net decrease in the energy supplied to the furnace and an increase (or no change) in the energy being lost up the flue, so unless there was a significant change in the casing losses (which cannot be determined) there is no explanation for the dramatic increase in energy output in the load air being claimed.

CGRI is unwilling to support any claim that implies that the first law of thermodynamics is being broken.

Canadian Gas Research Institute
Institut Canadien des Recherches Gazieres

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ext. 15

FACSIMILE COVER SHEET

TO: Mr. W. H. Velke, President.	FROM: Martin Thomas
OF: Tylon Prototype Inc.	DATE: 27 April 1999
CITY/PROV: Campellville, Ontario.	TIME SENT: 9 : 28 am
FAX No: (905) 659 3013	

This Message Consists of 3 Page(s) including this one.
If you do not receive the entire message, please telephone.

MESSAGE: Re. CGRI Response to your letter of 18 April, 1999, regarding the Tylon Fuel Saver Technology.

Dear Mr. Velke,

Please find attached a copy of CGRI's response to your letter dated 18 April, 1999, regarding CGRI's evaluation of the Tylon Fuel Saver Technology.

The original has been sent by mail with the ITS test report enclosed.

Yours sincerely,

M. Thomas

from the desk of...

Martin Thomas
Research Engineer

Canadian Gas Research Institute
Institut Canadien des Recherches Gazières

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Telephone: (905) 707-7247 Fax: (905) 707-1913

CGRI.

Mr. William H. (Bill) Velke,
President,
Tylon Prototype Inc.,
P.O. Box 154, 277 Campbellville Road,
Campbellville, Ontario, Canada, L0P 1B0.

27th April 1999

Re. Your letter dated April 18, 1999 regarding CGRI's Evaluation of the Tylon Fuel Saver Technology.

Dear Mr. Velke,

CGRI has reviewed your letter of response to CGRI's evaluation of The Tylon Fuel Saver Technology and we are of the opinion that :

1. Our conclusion that a fuel consumption reduction is consistent with an increase in fuel temperature is still valid (your own results indicate this).

2. As per our previous evaluation, the claim for an energy output increase is not supported by the data presented in the ITS report. An industry practice, for estimating air mass flow, used for appliance certification purposes does not necessarily constitute an acceptable scientific proof.

3. As previously explained, a reduction in the CO concentration from the increased propane temperature, increased volume flow and decreased mass flow was expected. Given the new information provided on the accuracy of the instrumentation used, the results can be said to be statistically valid.

   Reductions in CO are achieved by optimising the air/fuel ratio somewhere close to stoichiometric, achieving good air/fuel mixing and preventing flame quenching. In your case the increased volume flow (reduced mass flow) probably improves the air/gas mixing and provides an increased air/fuel ratio.

4. CGRI is still unable to explain, on a thermodynamic basis, why there would be an increase in heat output when the heat input is reduced and the heat losses remain constant.

On some of your other points:

- Flame intensity and flame temperature do not affect the total energy output of a burning fuel, i.e. the total energy output of a combusted fuel is purely a function of the total energy input in the fuel and air before they are combusted.

- Oxygen enrichment of the combustion air (i.e. increasing the oxygen concentration of the combustion air) is a well established industrial process improvement technique. In our opinion, the Tylon Fuel Saver Technology does not provide oxygen enrichment. To our knowledge, oxygen enrichment can only be achieved by adding oxygen to air or by removing the other constituents (nitrogen, CO_2, argon, etc.) from air, thereby increasing the concentration of the oxygen in the air. Therefore we cannot support the claims made for the Tylon Fuel Saver Technology as a result of improvements caused by oxygen enrichment.

Because CGRI is unable to explain, through sound scientific principles, the claimed / measured benefits of the Tylon Fuel Saver Technology, we cannot recommend this device for consideration by ETV Canada. In consequence, we feel that it would be in the best interests of Tylon Prototype Inc. that CGRI no longer be involved in the evaluation process.

All material generated to date will, of course, remain confidential between ourselves (to that end we return your ITS report) and we thank you for providing CGRI with the opportunity to be of service to you.

In view of our withdrawal from any further evaluation, of the Tylon Fuel Saver Technology or material relating to it, we will not be invoicing you for the time taken to prepare this response. Any future efforts, however, will be invoiced at our standard rates.

Yours sincerely,

M. Thomas

cc: Roger Barker, General Manager & COO, CGRI.

from the desk of...

Martin Thomas
Research Engineer